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SOCIAL AND ECONOMIC CHARACTERISTICS OF STUDENTS: OCTOBER 1973

U. S. DEPARTMENT OF COMMERCE
Social and Economic Statistics Administration
BUREAU OF THE CENSUS

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SOCIAL AND ECONOMIC CHARACTERISTICS OF STUDENTS: OCTOBER 1973

CONTENTS

TEXT TABLES

CHARTS

CONTENTS—Continued

DETAILED TABLES

APPENDIX

SOCIAL AND ECONOMIC CHARACTERISTICS OF STUDENTS: OCTOBER 1973

The long-term trend in the history of American education has been one of rising enrollment at all ages, encouraged at the elementary and secondary school ages by compulsory attendance laws and at the college ages by a rising rate of high school graduation. The increased availability of two-year colleges has also contributed substantially to the rise in college enrollment.

In 1973, almost all persons between the ages of 6 and 16 were enrolled in school. Because of compulsory school attendance laws the proportion enrolled at these ages is not likely to change much, if any, in the future, although the total number of children attending elementary school has declined in recent years as a result of declining births. Among persons outside these conventional ages of school attendance, however, some changes in the enrollment rate are occurring. For example, at ages 3 to 5 years, the enrollment rate has risen from 38 percent in 1969 to 44 percent in 1973. At the same time, among young men of the age to enter college (18 and 19 years old) the enrollment rate has declined since 1969. These findings are based on results from the Current Population Survey conducted by the Bureau of the Census in October 1973 and earlier years and relate to the civilian noninstitutional population 14 to 34 years old.

PATTERNS OF COLLEGE ATTENDANCE

Age and sex. Older college students, those who were 25 to 34 years old, have increased as a proportion of all college students during the past two and a half decades. This change in the age distribution has occurred in part because a smaller proportion of 18- and 19-year-olds have entered college in very recent years.

In 1947, the first year that full age detail of college students became available from the Current Population Survey, 18 percent of all college students were 25 to 34 years old. By 1973, this figure had increased to 22 percent. The change was largely among women students, from 5 percent in 1947 to 18 percent in 1973. Among men students, the change from 23 percent to 26 percent is not statistically significant. Other changes in the age distribution of college students also varied between men and women.

Since 1947, the proportion of women college students who were under 18 years old has dropped from 16 percent to 5 percent--largely between 1947 and 1965 with fluctuation prior to 1965. During this period 18- and 19-year-old women declined somewhat as a proportion of all women college students, while there is some evidence that those who were 20 to 24 years old increased. As previously noted, those who were 25 to 34 years old increased from 5 to 18 percent of the total. This increase in the proportion in the oldest age group occurred in part because women were remaining in school longer in 1973. For example, since 1959, the earliest year for which single year of enrollment is available from the Current Population Survey, the proportion of women college students who were enrolled in graduate school (fifth year or higher of college) increased from 9 percent to 14 percent.

Figure 1. Cumulative Age Distribution of College Students 14 to 34 Years Old, October 1947 to 1973.

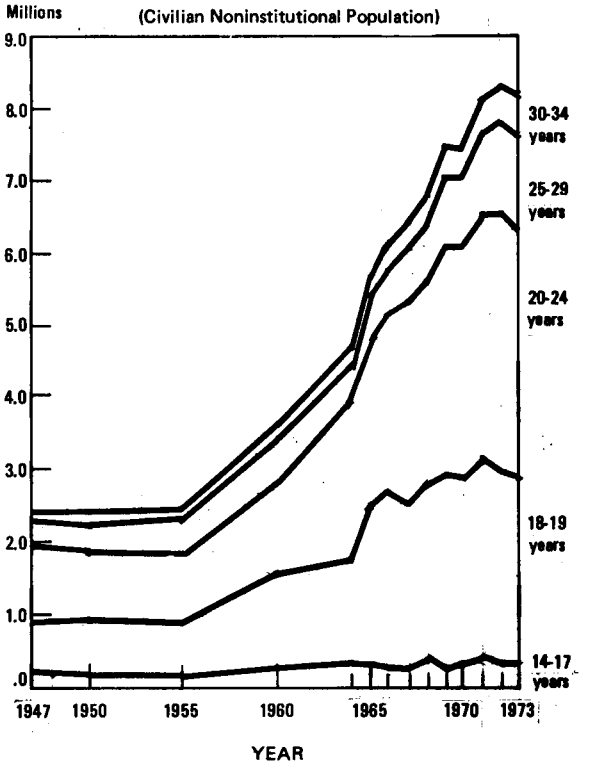

Table A. Age Distribution of College Students 14 to 34 Years Old, by Sex: October 1947 to October 1973

(Numbers in thousands. Civilian noninstitutional population)

Sex and age	1973	1972	1970	1965	1955	1947
Male, 14 to 34 years...	4,677	4,853	4,401	3,503	1,579	1,687
Percent						
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
14 to 17 years.....	2.6	2.9	3.0	3.2	3.6	5.2
18 and 19 years.....	27.6	28.1	30.6	34.8	27.4	20.3
20 and 21 years.....	24.2	24.1	24.6	23.0	41.0	51.7
22 to 24 years.....	20.0	20.6	20.5	20.0		
25 to 34 years.....	25.6	24.3	21.4	19.1	28.1	22.8
Female, 14 to 34 years.	3,502	3,459	3,013	2,172	800	624
Percent						
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
14 to 17 years.....	5.0	4.4	4.3	7.0	11.3	16.2
18 and 19 years.....	35.0	38.0	41.4	45.9	39.1	44.4
20 and 21 years.....	27.0	27.3	25.7	24.0	35.6	34.6
22 to 24 years.....	15.1	13.4	15.0	11.1		
25 to 34 years.....	18.1	16.8	13.6	12.0	14.0	4.8

The proportion of men college students under 18 years old has also declined since 1947, while with some fluctuation during interim years, the proportion who were 18 and 19 years old increased from 20 to 28 percent of the total. In contrast to women students, the proportion of men students who were 20 to 24 years old decreased from 52 percent in 1947 to 44 percent in 1973. There was no evidence of an increase in the proportion of men college students 25 to 34 years old. Also, there is no evidence that men college students were more likely to be attending graduate school in 1973 than in 1959, about 18 percent in each year.

Also during this period, the ratio of men college students to women students declined sharply as the overall enrollment rate of women increased more rapidly than that of men, especially in recent years. In 1947, there were 270 men college students for every 100 women students. By 1973 this ratio had dropped to 133.

Enrollment in private colleges. The proportion of college students attending private schools has been declining. In the past two decades, enrollment in private colleges has dropped from about 40 percent to 24 percent of all college enrollment.

Enrollment in private colleges is related to family income, education of family head, and residence. In October 1973, 29 percent of college students 18 to 24 years old who were members of families with incomes of $15,000 and over were attending private schools, whereas only about 16 percent of those in families with incomes under $5,000 attended private schools. In the Current Population Survey, persons attending college before they marry are considered members of their parental home if that is their usual residence.

Table B. Private College Enrollment of Dependent Family Members 18 to 24 Years Old, by Family Income: October 1973

Family income	Total enrolled	Percent in private colleges
Total enrolled, 18 to 24 years.....	4,641	25.4
Under $5,000.....	300	16.3
$5,000 to $7,499.....	301	22.9
$7,500 to $9,999.....	347	18.4
$10,000 to $14,999.....	1,141	21.3
$15,000 and over.....	2,077	29.1
Not reported.....	474	31.2

Table C. Private College Enrollment of Dependent Family Members 14 to 34 Years Old, by Education of Family Head: October 1973 and 1967

(Numbers in thousands. Civilian noninstitutional population)

Years of school completed by family head	1973		1967	
	Total enrolled	Percent in private colleges	Total enrolled	Percent in private colleges
Total, 14 to 34 years old....	5,022	25.3	4,455	29.9
Elementary: 0 to 7 years.....	225	18.7	213	18.8
8 years.....	316	16.1	367	25.6
High school: 1 to 3 years.....	543	19.9	631	25.2
4 years.....	1,719	22.5	1,518	26.0
College: 1 to 3 years.....	751	26.9	671	31.6
4 years or more.....	1,468	32.8	1,057	40.8

Thirty-three percent of the college students 14 to 34 years old who were members of families in which the head was a college graduate were attending private colleges, but only about 19 percent of those whose family head had not completed elementary school attended private colleges (table C).

Students living in metropolitan areas are more likely to attend private colleges than are those living in nonmetropolitan areas. In 1973, 26 percent of college students living in metropolitan areas (SMSA's) were attending private colleges, as compared with 16 percent of those living in nonmetropolitan areas (table 3).

Table D. Proportion of College Students 14 to 34 Years Old Attending College Full Time, by Age, Sex, and Marital Status: October 1973

(Numbers in thousands. Civilian noninstitutional population)

Age and sex	All college students		Married, spouse present	
	Total	Percent attending full time	Total	Percent attending full time
MALE				
Total, 14 to 34 years....	4,677	74.9	1,232	43.3
14 to 17 years.....	121	92.6	2	(B)
18 and 19 years.....	1,293	93.9	21	(B)
20 and 21 years.....	1,130	88.9	87	71.3
22 to 24 years.....	937	73.7	281	57.7
25 to 29 years.....	867	43.0	596	37.8
30 to 34 years.....	329	32.8	245	28.2
Median.....years..	21.6	(X)	26.9	(X)
FEMALE				
Total, 14 to 34 years....	3,502	73.8	764	35.1
14 to 17 years.....	174	90.8	1	(B)
18 and 19 years.....	1,224	93.5	38	(B)
20 and 21 years.....	944	87.8	122	66.4
22 to 24 years.....	528	54.7	199	34.2
25 to 29 years.....	411	28.7	247	23.5
30 to 34 years.....	222	21.2	156	17.3
Median.....years..	20.7	(X)	25.4	(X)

B Base less than 75,000.
X Not applicable.

Full-time college enrollment. Full-time college attendance is related to such factors as age, type of college attended, and marital status. About 90 percent of all students 18 to 21 years old were enrolled full time in October 1973. However, at older ages (30 to 34 years old) only about 33 percent of the men students and 21 percent of the women students were in full-time attendance. At ages 35 years and over, about a fourth of the college students attended full time.

Students attending private colleges were more likely to be enrolled full time in 1973 (80 percent) than were students attending public colleges (73 percent).

In addition, married students were about half as likely as unmarried students to be attending college full time in 1973. Married women students were slightly less likely than married men students to be enrolled full time--35 percent versus 43 percent (table D).

Two-year college enrollment. Two-year colleges now account for nearly one-fourth of all college enrollment. This proportion has been fairly constant since 1970 but represents a gain of about 6 percentage points over the figure for 1966, the first year that the Census Bureau collected data on type of college in the Current Population Survey.

Since 1966, about 85 percent of the increase in the size of the freshman and sophomore classes has been absorbed by two-year colleges.

Table E. College Enrollment of Persons 14 to 34 Years Old, by Type of College and Sex: October 1966 and 1971 to 1973

(Numbers in thousands. Civilian noninstitutional population)

Year and sex	Total[1]	Type of college		Percent distribution		
		2-year colleges	4-year colleges	Total[2]	Type of college	
					2-year colleges	4-year colleges
1973						
Total	8,179	1,797	6,161	100.0	22.6	77.4
Male	4,677	1,012	3,551	100.0	22.2	77.8
Female	3,502	785	2,609	100.0	23.1	76.9
1972						
Total	8,313	1,910	6,230	100.0	23.5	76.5
Male	4,853	1,125	3,651	100.0	23.6	76.4
Female	3,459	785	2,577	100.0	23.3	76.7
1971						
Total	8,087	1,830	5,958	100.0	23.5	76.5
Male	4,850	1,087	3,602	100.0	23.2	76.8
Female	3,236	743	2,355	100.0	24.0	76.0
1966						
Total	6,085	1,046	5,039	100.0	17.2	82.8
Male	3,749	612	3,137	100.0	16.3	83.7
Female	2,337	435	1,902	100.0	18.6	81.4

[1]Total includes persons not reporting type of college, 1971 to 1973, not shown separately.
[2]Percent based on persons reporting type of college in 1971 to 1973.

Table F. School Enrollment of Persons 35 Years Old and Over, by Sex, Marital Status, and Full-Time and Part-Time College Enrollment: October 1973

(Numbers in thousands. Civilian noninstitutional population)

Sex, marital status, and full-time or part-time enrollment	Total	White	Negro and other races	Percent distribution		
				Total	White	Negro and other races
Enrolled, all levels.....	851	738	113	100.0	100.0	100.0
Male.....	398	342	56	46.8	46.3	49.6
Female.....	453	396	57	53.2	53.7	50.4
Married, spouse present.....	660	584	76	77.6	79.1	67.3
Other marital status.....	191	154	37	22.4	20.9	32.7
Enrolled in college.....	787	690	97	100.0	100.0	100.0
Full time.....	197	163	34	25.0	23.6	35.1
Part time.....	590	527	63	75.0	76.4	64.9

EXPLANATION OF POPULATION ESTIMATES

In order to obtain estimates of the characteristics of the civilian noninstitutional population at the time the Current Population Survey is taken, weighted sample results of the survey are inflated using the most recent postcensal population estimates as bases. The base for inflation factors used with the October 1973 and 1972 surveys was the 1970 Census of Population; all previous years (since 1961) have been based on the 1960 Census of Population. A comparison of October 1971 survey data based on the 1960 census with revised data using the 1970 census as a base, shows the 1970-based estimates for all ages under 12 years old to be smaller than the 1960-based estimates. In comparing data based on different census years, it is important to consider the effect of weighting procedures. Current Population Reports, Series P-20, No. 260, appendix table B shows school enrollment data by age, sex, and level for October 1971 based on the 1970 census figures.

RELATED REPORTS

Advance data on school enrollment for October 1973 were presented in Series P-20, No. 261. Statistics on school enrollment for October of the years prior to 1973 have been published in other reports in Series P-20.

Data on college plans of high school seniors for October 1973 were presented in "College Plans of High School Seniors: October 1973," Current Population Reports, Series P-20, No. 270. Information on the characteristics of students in 2-year (junior or community colleges) and 4-year colleges are shown in "Undergraduate Enrollment in Two-Year and Four-Year Colleges: October 1972," Current Population Reports, Series P-20, No. 257. Data on nursery school and kindergarten enrollment for October 1973 were published in Current Population Reports, Series P-20, No. 268.

Statistics on school enrollment for cities, standard metropolitan statistical areas, States, regions, and the United States appear in reports of the decennial censuses. Detailed statistics on school enrollment by age and socioeconomic characteristics for regions and the United States are presented in Subject Reports of the 1970 census, especially in PC(2)-5A, School Enrollment.

Figures on school enrollment from the October Current Population Survey differ from decennial census data for reasons in addition to the difference in the dates. In the first place, the survey data exclude the institutional population and members of the Armed Forces. These two groups were included in the census. Second, there were differences in field work. The small group of Current Population Survey enumerators were more experienced and had more intensive training and supervision than the large number

of temporary census enumerators and may have more often obtained more accurate answers from respondents. Third, the census was taken in April and relates to enrollment since February 1, whereas the surveys were taken in October and relate to enrollment in the current term. This difference in months of the year affects not only the extent of school enrollment (through "dropouts" during the school year, etc.) but also the level of school in which persons of a given age are enrolled.

Data from school systems. Information on college enrollment is also collected and published by Federal, State, and local governmental agencies, and by independent research organizations. This information is generally obtained from reports of school systems and institutions of higher learning, and from other surveys and censuses. These data are only roughly comparable with data collected by the Bureau of the Census by household interviews, however, because of differences in definitions, subject matter covered, and enumeration methods. The census data are subject to sampling variability, which may be relatively large where numbers for specific age or population groups, or for given school categories, are small.

DEFINITIONS AND EXPLANATIONS

Population coverage. The figures shown are for the civilian population excluding the relatively small number of inmates of institutions.

Metropolitan-nonmetropolitan residence. The population residing in standard metropolitan statistical areas (SMSA's) constitutes the metropolitan population. Except in New England, an SMSA is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. In addition to the county, or counties, containing such a city or cities, contiguous counties are included in an SMSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, SMSA's consist of towns and cities, rather than counties. The metropolitan population in this report is based on SMSA's as defined in the 1970 census and does not include any subsequent additons or changes.

The population inside SMSA's is further classified as "in central cities" and "outside central cities." With a few exceptions, central cities are determined according to the following criteria:

1. The largest city in an SMSA is always a central city.

2. One or two additional cities may be secondary central cities on the basis and in the order of the following criteria:

a. The additional city or cities have at least 250,000 inhabitants.

b. The additional city or cities have a population of one-third or more of that of the largest city and a minimum population of 25,000.

Geographic regions. The four major regions of the United States, for which data are presented in this report, represent groups of States, as follows:

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

North Central: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

West: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

School enrollment. The school enrollment statistics from the current surveys are based on replies to the enumerator's inquiry as to whether the person was enrolled in school. Enumerators were instructed to count as enrolled anyone who had been enrolled at any time during the current term or school year in any type of graded public, parochial, or other private school in the regular school system. Such schools include nursery schools, kindergartens, elementary schools, high schools, colleges, universities, and professional schools. Attendance may be on either a full-time or part-time basis and during the day or night. Thus, regular schooling is that which may advance a person toward an elementary or high school diploma, or a college, university, or professional school degree. Children enrolled in nursery schools and kindergarten are included in the enrollment figures for "regular" schools, and are also shown separately.

"Special" schools are those which are not in the regular school system, such as trade schools or business colleges. Persons attending "special" schools are not included in the enrollment figures.

Persons enrolled in classes which do not require physical presence in school, such as correspondence courses or other courses of independent study, and in training courses given directly on the job, are also excluded from the count of those enrolled in school, unless such courses are being counted for credit at a "regular" school.

College enrollment. The college enrollment statistics are based on replies to the enumerator's inquiry as to whether the person was enrolled in college. Enumerators were instructed to count as enrolled anyone who had been enrolled at any time during the current term or school year in any type of regular college or university. Attendance may be on either a full-time or part-time basis and during the day or night. Thus, regular college is a school that may advance a person toward a college or university degree.

Two-year and four-year college. Students enrolled in the first three years of college were asked to report whether the college in which they were enrolled was a 2-year college (junior or community college). Those who replied "yes" were classified as enrolled in a two-year college. Those who replied "no" were classified as enrolled in a 4-year college.

School enrollment in year preceding current survey. An inquiry on enrollment in regular school or college in October of the preceding year was asked in the 1973 survey concerning persons 14 to 24 years old who were not currently attending regular school or who were enrolled in college.

Level of school. The statistics on level of school indicate the number of persons enrolled at each of five levels: Nursery, kindergarten, elementary school (first to eighth grades), high school (ninth to twelfth grades), and college or professional school. The last group includes graduate students in college or universities. Persons enrolled in junior high school through the eighth grade are classified as in elementary school and the others as in high school.

Nursery school. A nursery school is defined as a group or class that is organized to provide educational experiences for children during the year or years preceding kindergarten. It includes instruction as an important and integral phase of its program of child care. Private homes in which essentially custodial care is provided are not considered nursery schools. Children attending nursery school are classified as attending during either part of the day or the full day. Part-day attendance refers to those who attend either in the morning or in the afternoon, but not both. Full-day attendance refers to those who attend both in the morning and afternoon.

"Head Start." Children enrolled in "Head Start" programs or similar programs sponsored by local agencies to provide preschool education to young children are counted under "Nursery" or "Kindergarten" as appropriate.

Public or private school. In this report, a public school is defined as any educational institution operated by publicly elected or appointed school officials and supported by public funds. Private schools include educational institutions established and operated by religious bodies, as well as those which are under other private control. In cases where enrollment was in a school or college which was both publicly and privately controlled or supported, enrollment was counted according to whether it was primarily public or private.

Full-time and part-time attendance. College students were classified, in this report, according to whether they were attending school on a full-time or part-time basis. A student was regarded as attending college full time if he was taking 12 or more hours of classes during the average school week, and part time if he was taking less than 12 hours of classes during the average school week.

Age. The age classification is based on the age of the person as of October 1, 1973.

Race. The population is divided into three groups on the basis of race: white, Negro, and "other races." The last category includes Indians, Japanese, Chinese, and any other race except white and Negro.

Spanish origin. Information on origin or descent was obtained by asking "What is (this person's) origin or descent?" Responses generally refer to a person's perceived national or ethnic lineage and do not necessarily indicate the country of birth of himself or his parents. The category Spanish origin includes persons of Mexican, Puerto Rican, Central or South American, and other Spanish origin.

Marital status. The marital status category shown in this report, "married, spouse present," includes persons who are currently married and living with their spouse.

Family. The term "family," as used here, refers to a group of two persons or more related by blood, marriage, or adoption and residing together; all such persons are considered as members of one family.

Head of family. One person in each family residing together was designated as the head. The head of a family is usually the person regarded as the head by members of the family. Women are not classified as heads if their husbands are resident members of the family at the time of the survey.

Dependent family members. For the purpose of this report, a dependent family member is a relative of the household head, excluding the head's wife or any other relative who is married with a spouse present. Such persons are generally sons and daughters of the household head. However, members who are living away from home while attending college are also counted as dependent family members, if they are not married with a spouse present.

Years of school completed. Data on years of school completed in this report were derived from the combination of answers to two questions: (a) "What is the highest grade of school he has ever attended?" and (b) "Did he finish this grade?"

The questions on educational attainment apply only to progress in "regular" schools. Such schools include graded public, private, and parochial elementary and high schools (both junior and senior high), colleges, universities, and professional schools, whether day schools or night schools. Thus, regular schooling is that which may advance a person toward an elementary school certificate or high school diploma, or a college, university, or professional school degree. Schooling in other than regular schools was counted only if the credits obtained were regarded as transferable to a school in the regular school system.

Family income. Income as defined in this report represents the combined total money income of the family before deductions for personal taxes, Social Security, bonds, etc. It is the algebraic sum of money wages and salaries, net income from self-employment, and income other than earnings received by all family members during the 12 months prior to the surveys. It should be noted that although the family income statistics refer to receipts during the previous 12 months, the characteristics of the person, such as age, marital status, etc., and the composition of families refer to the date of the survey.

The income tables include in the lowest income group (under $3,000) those who were classified as having no income in the previous 12 months and those reporting a loss in net income from farm and nonfarm self-employment or in rental income.

The income tables in this report include a separate category for families for whom no income information was obtained. In most of the other Current Population Survey Reports showing income data, the missing income data have been allocated.

The money income level of families shown in this report may be somewhat understated. Income data from the October control card are based on the respondent's estimate of total family money income for the preceding 12 months coded in broad, fixed income intervals. Income data collected in the March supplement to the Current Population Survey are based on responses to 8 direct questions asked of all persons 14 years old and over identifying 14 different sources of income and cover the preceding calendar year.

Previous research has shown that the use of broad income intervals to record money income tends to reduce the rate of nonreporting while increasing the likelihood that the amounts reported will be significantly understated as compared with results from more detailed questions.

Rounding of estimates. Individual figures are rounded to the nearest thousand without being adjusted to group totals, which are independently rounded. With few exceptions, percentages are based on the rounded absolute numbers.

SOURCE AND RELIABILITY OF THE ESTIMATES

Source of data. The data for this report for the years 1947-1973 are based on results obtained in the Current Population Survey (CPS) of the Bureau of the Census.

Since 1973 the sample is spread over 461 areas comprising 923 counties and independent cities with coverage in each of the 50 States and the District of Columbia. Approximately 47,000 occupied housing units are eligible for interview each month. Of this number 2,000 occupied units, on the average, are visited but interviews are not obtained because the occupants are not at home after repeated calls or are unavailable for some other reason. In

Table G. October CPS Control Card Family Income and March CPS Supplement Family Income for 1967 Through 1973

Year	Median family income, October control card	Percent change	Median family income, March supplement	Percent change	October-March ratio
1967	$6,811	(X)	$7,974	(X)	0.85
1968	7,189	5.5	8,632	8.3	0.83
1969	7,770	8.1	9,433	9.3	0.82
1970	8,268	6.4	9,867	4.6	0.84
1971	8,680	5.0	10,285	4.2	0.84
1972	9,275	6.9	11,116	8.1	0.83
1973	10,274	10.8	12,051	8.4	0.85

X Not applicable.

addition to the 47,000 there are also about 8,000 sample units in an average month which are visited but are found to be vacant or otherwise not to be interviewed.

CPS has undergone many changes in its sample size and sample design since being placed on a probability sampling basis in 1943. The table below summarizes these changes.

Year of full initiation	Sample size[1]	Number of sample areas
1973	47,000	461
1969	47,000	449
1967	50,000	449
1963	35,000	357
1956	35,000	330 (333)[2]
1954	22,000	230
1943	22,000	63

[1]Eligible occupied housing units.
[2]Three sample areas were added in 1959 and 1960 to represent Alaska and Hawaii after statehood.

The estimating procedure used in this survey involved the inflation of the weighted sample results to independent estimates of the civilian noninstitutional population of the United States by age, race and sex. These independent estimates were based on statistics from the 1970 Census of Population; statistics of births, deaths, immigration, and emigration; and statistics on the strength of the Armed Forces. For the data collected in the Current Population Surveys in the years 1962-71, the independent estimates used were based on statistics from the 1960 Census of Population. For data collected in the years 1952-1961, the independent estimates were based on the 1950 Census; and for 1947 to 1951 data, the independent estimates were based on the 1940 Census.

Reliability of the estimates. Since the estimates are based on a sample, they may differ somewhat from the figures that would have been obtained if a complete census had been taken using the same schedules, instructions, and enumerators. As in any survey work, the results are subject to errors of response and of reporting, as well as being subject to sampling variability.

Differences. For a difference between two sample estimates, the standard error is approximately equal to the square root of the sum of the squares of the standard errors of each estimate considered separately. This formula will represent the actual standard error quite accurately for the difference between two estimates of the same characteristic in two different areas, or for the difference between separate and uncorrelated characteristics in the same area. If, however, there is a high positive correlation between the two characteristics, this formula will overestimate the true standard error. These statements are true whether one deals with estimated number of persons or families, estimated proportions of classes of persons or families, or ratios of estimated numbers or proportions.

Table H. Standard Errors for Estimated Numbers of Persons Enrolled in School

Total or White Population

(All numbers in thousands. 68 chances out of 100)

Estimated number of persons	Total persons in age group									
	100	250	500	1,000	2,500	5,000	10,000	25,000	50,000	100,000
10	4.4	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
20	6.0	6.3	6.3	6.4	6.4	6.4	6.4	6.4	6.4	6.4
30	6.9	7.6	7.7	7.8	7.8	7.8	7.8	7.8	7.8	7.8
40	7.4	8.6	8.8	8.9	9.0	9.0	9.0	9.0	9.0	9.0
50	7.5	9.5	9.8	10.0	10.1	10.1	10.1	10.1	10.1	10.1
75	6.5	10.9	11.9	12.1	12.3	12.3	12.4	12.4	12.4	12.4
100	-	11.6	13.4	13.9	14.1	14.2	14.3	14.3	14.3	14.3
200	-	9.5	16.0	19.0	20.0	20.0	20.0	20.0	20.0	20.0
300	-	-	16.0	22.0	24.0	24.0	25.0	25.0	25.0	25.0
400	-	-	13.0	23.0	27.0	28.0	28.0	28.0	29.0	29.0
500	-	-	-	24.0	30.0	31.0	32.0	32.0	32.0	32.0
750	-	-	-	21.0	34.0	38.0	38.0	39.0	39.0	39.0
1,000	-	-	-	-	37.0	42.0	44.0	45.0	45.0	45.0
2,000	-	-	-	-	30.0	52.0	60.0	63.0	63.0	64.0
3,000	-	-	-	-	-	52.0	69.0	76.0	77.0	78.0
4,000	-	-	-	-	-	42.0	74.0	86.0	88.0	89.0
5,000	-	-	-	-	-	-	75.0	95.0	98.0	100.0
7,500	-	-	-	-	-	-	65.0	109.0	119.0	121.0
10,000	-	-	-	-	-	-	-	116.0	134.0	139.0
20,000	-	-	-	-	-	-	-	95.0	164.0	190.0
30,000	-	-	-	-	-	-	-	-	164.0	217.0
40,000	-	-	-	-	-	-	-	-	134.0	232.0
50,000	-	-	-	-	-	-	-	-	-	237.0
75,000	-	-	-	-	-	-	-	-	-	205.0

Note: To estimate the standard errors for the period 1956-1966, multiply these standard errors by 1.23. For years prior to 1956, multiply by 1.6.

Illustration of the computation of the standard error of a difference in percentages. Table D shows that of the 3,502,000 females aged 14 to 34 attending college, 73.8 percent were attending full time. The apparent difference between males and females in full-time attendance is thus 1.1 percent. Table J shows that the standard error of 73.8 percent on a base of 3,502,000 to be about 1.1 percent. The standard error of the corresponding 74.9 percent for males 14 to 34 is 0.9 percent as shown above. The standard error of the estimated difference in percentages is about $\sqrt{(1.1)^2+(0.9)^2} =$ 1.4 percent. This means the chances are 68 out of 100 that the estimated difference based on the 1973 sample would differ from the difference derived using census figures by less than 1.4 percent. The 68 percent confidence interval about the 1.1 percent difference is from -0.3 to 2.5 percent, i.e., 1.1 ± 1.4 percent. The 95 percent confidence interval is -1.7 to 3.9 percent. We cannot conclude with 95 percent confidence (or even with 68 percent confidence) that the percentage of male college students 14 to 34 who are attending full time, differs from the corresponding percentage of female college students 14 to 34.

The standard error is primarily a measure of sampling variability, that is, of the variations that occur by chance because a sample rather than the whole of the population is surveyed. As calculated for this report, the standard error also partially measures the effect of response and enumeration errors, but does not measure any systematic biases in the data. The chances are about 68 out of 100 that an estimate from the sample would differ from a complete census figure by less than the standard error. The chances are 90 out of 100 that this difference would be less than 1.6 times the standard error, and the chances are about 95 out of 100 that the difference would be less than twice the standard error.

Table I. Standard Errors for Estimated Numbers of Persons Enrolled in School

Negro and Other Races

(All numbers in thousands. 68 chances out of 100)

Estimated number of persons	Total persons in age group						
	100	250	500	1,000	2,500	5,000	10,000
10	5.0	5.1	5.2	5.2	5.2	5.2	5.2
20	6.6	7.1	7.3	7.3	7.4	7.4	7.4
30	7.6	8.5	8.8	9.0	9.0	9.1	9.1
40	8.2	9.6	10.1	10.3	10.4	10.5	10.5
50	8.3	10.5	11.1	11.4	11.6	11.7	11.7
75	7.3	12.1	13.3	13.8	14.2	14.3	14.3
100	-	12.9	14.9	16.0	16.0	16.0	17.0
200	-	10.7	18.0	21.0	23.0	23.0	23.0
300	-	-	18.0	24.0	27.0	28.0	28.0
400	-	-	15.0	26.0	30.0	32.0	33.0
500	-	-	-	26.0	33.0	35.0	36.0
750	-	-	-	23.0	38.0	42.0	44.0
1,000	-	-	-	-	41.0	47.0	50.0
2,000	-	-	-	-	34.0	58.0	66.0
3,000	-	-	-	-	-	58.0	76.0
4,000	-	-	-	-	-	48.0	82.0
5,000	-	-	-	-	-	-	83.0
7,500	-	-	-	-	-	-	73.0
10,000	-	-	-	-	-	-	-

Note: To estimate the standard errors for the period 1956-1966, multiply these standard errors by 1.23. For years prior to 1956, multiply by 1.6.

Table J. Standard Errors of Estimated Percentages of Persons Enrolled in School

Total or White Population

(68 chances out of 100)

Estimated percentage	Base of percentage (thousands)									
	100	250	500	1,000	2,500	5,000	10,000	25,000	50,000	100,000
2 or 98	2.0	1.3	0.9	0.6	0.4	0.3	0.2	0.1	0.1	0.1
5 or 95	3.1	2.0	1.4	1.0	0.6	0.4	0.3	0.2	0.1	0.1
10 or 90	4.3	2.7	1.9	1.4	0.9	0.6	0.4	0.3	0.2	0.1
25 or 75	6.2	3.9	2.8	2.0	1.2	0.9	0.6	0.4	0.3	0.2
50	7.2	4.5	3.2	2.3	1.4	1.0	0.7	0.5	0.3	0.2

Note: To estimate the standard errors for the period 1956-1966, multiply these standard errors by 1.23. For years prior to 1956, multiply by 1.6.

Table K. Standard Errors of Estimated Percentages of Persons Enrolled in School

Negro and Other Races

(68 chances out of 100)

Estimated percentage	Base of percentage (thousands)							
	50	100	250	500	1,000	2,500	5,000	10,000
2 or 98	3.3	2.3	1.5	1.0	0.7	0.5	0.3	0.2
5 or 95	5.1	3.6	2.3	1.6	1.2	0.7	0.5	0.4
10 or 90	7.1	5.0	3.2	2.2	1.6	1.0	0.7	0.5
25 or 75	10.2	7.2	4.6	3.2	2.3	1.4	1.0	0.7
50	11.8	8.4	5.3	3.7	2.6	1.7	1.2	0.8

Note: To estimate the standard errors for the period 1956-1966, multiply these standard errors by 1.23. For years prior to 1956, multiply by 1.6.

All statements of comparison appearing in the text are significant at a 1.6 standard error level or better, and most are significant at a level of more than 2.0 standard errors. This means that for most differences cited in the text, the estimated difference is greater than twice the standard error of the difference. Statements of comparison qualified in some way (e.g., by use of the phrase "some evidence") have a level of significance between 1.6 and 2.0 standard errors.

The figures presented in tables H, I, J, K, L, and M are approximations to the standard errors of various estimates shown in this report. In order to derive standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, the tables of standard errors provide an indication of the order of magnitude of the standard errors rather than the precise standard error for any specific items. Tables H and I contain the standard errors of estimated numbers for a given class of persons age 3 to 34 enrolled in school. Table L contains the standard errors of estimated numbers of families.

The reliability of an estimated percentage, computed by using sample data for both numerator and denominator, depends upon both the size of the percentage and the size of the total upon which the percentage is based. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50 percent or more. Table J and K contain the standard errors of estimated percentages for a given class of persons age 3 to 34 enrolled in school. Table M contains the standard errors of estimated percentages of families. Table N contains population estimates for age, sex, and race groups in October 1973 which are necessary for the use of tables H-M.

Note when using small estimates. Percentage distributions are shown in this report only when the base of the percentage is greater than 75,000. Because of the large standard errors involved, there is little chance that percentages would reveal useful information when computed on a smaller base. Estimated totals are shown, however, even though the relative standard errors of these totals are larger than those for the corresponding percentages. These smaller estimates are provided primarily to permit such combinations of the categories as serve each user's need.

Table L. Standard Errors of Estimated Numbers of Families: 1967-1973

(All numbers in thousands. 68 chances out of 100)

Size of estimate	Standard error	Size of estimate	Standard error
100.....	10	5,000.....	66
250.....	16	10,000.....	88
500.....	22	25,000.....	112
1,000.....	31	50,000.....	158
2,500.....	48		

Note: To estimate the standard errors for the period 1956-1966, multiply these standard errors by 1.23. For years prior to 1956, multiply by 1.6.

Table M. Standard Errors of Estimated Percentages of Families: 1967-1973

(68 chances out of 100)

Estimated percentage	Base of estimated percentage (thousands)								
	100	250	500	1,000	2,500	5,000	10,000	25,000	50,000
2 or 98.....	1.4	0.9	0.6	0.4	0.3	0.2	0.1	0.1	0.1
5 or 95.....	2.1	1.4	1.0	0.7	0.4	0.3	0.2	0.1	0.1
10 or 90.....	3.0	1.9	1.4	1.0	0.6	0.4	0.3	0.2	0.1
25 or 75.....	4.3	2.7	1.9	1.4	0.9	0.6	0.4	0.3	0.2
50.....	5.0	3.0	2.3	1.6	1.0	0.7	0.5	0.3	0.3

Note: To estimate the standard errors for the period 1956-1966, multiply these standard errors by 1.23. For years prior to 1956, multiply by 1.6.

Illustration of the use of tables of standard errors. Table D of this report shows that 4,677,000 of the 34,080,000 men aged 14 to 34 were enrolled in college. Table H shows that the standard error on an estimate of this size is about 93,000. The chances are 68 out of 100 that the estimate would have been a figure differing from a complete census figure by less than 93,000. The chances are 95 out of 100 that the estimate would have differed from a complete census figure by less than 186,000.

Of these 4,677,000 college males, 74.9 percent were attending full time. Table J shows that the standard error of 74.9 percent on a base of 4,677,000 to be approximately 0.9 percent. Consequently, chances are 68 out of 100 that the estimated 74.9 percent would be within 0.9 percentage points of a complete census figure, and chances are 95 out of 100 that the estimate would be within 1.8 percentage points of a census figure, i.e., this 95 percent confidence interval would be from 73.1 to 76.7 percent.

Table N. Estimates of Population in Age, Sex, and Race Groups: October 1973

(In thousands. Civilian noninstitutional population)

Age	Total		White		Negro and other races	
	Male	Female	Male	Female	Male	Female
3.....	1,816	1,741	1,524	1,453	292	288
4.....	1,754	1,689	1,484	1,419	271	270
5.....	1,704	1,640	1,441	1,377	264	263
6.....	1,724	1,662	1,457	1,395	268	267
7.....	1,790	1,726	1,508	1,445	283	281
8.....	1,889	1,823	1,594	1,530	295	294
9.....	1,987	1,915	1,683	1,613	304	303
10 and 11....	4,095	3,949	3,482	3,339	612	610
12 and 13....	4,242	4,090	3,621	3,469	621	621
14 and 15....	4,232	4,094	3,620	3,478	612	617
16 and 17....	4,138	4,057	3,548	3,452	590	605
18 and 19....	3,720	3,928	3,207	3,351	513	577
20 and 21....	3,361	3,763	2,920	3,231	441	532
22 to 24.....	5,028	5,442	4,381	4,682	647	761
25 to 29.....	7,447	7,923	6,612	6,904	835	1,019
30 to 34.....	6,155	6,587	5,462	5,722	693	866
35 to 39.....	5,256	5,703	4,657	4,939	599	764
40 to 44.....	5,412	5,818	4,820	5,076	592	742
45 to 49.....	5,672	6,138	5,103	5,441	569	698
50 to 54.....	5,550	6,077	5,006	5,438	544	639
55 to 59.....	4,811	5,363	4,385	4,854	426	509
60 and 61....	1,748	2,002	1,592	1,815	156	187
62 to 64.....	2,413	2,839	2,186	2,569	227	270
65 to 69.....	3,233	4,026	2,939	3,663	294	364
70 to 74.....	2,327	3,248	2,099	2,948	228	300
75 and over..	2,854	4,670	2,599	4,311	255	360